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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,631	04/07/2004	Lawrence C. Gunn III	LUX-P038	8826

22877 7590 06/05/2006

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EXAMINER

NGUYEN, JIMMY

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,631

Applicant(s)

GUNN ET AL.

Examiner

Jimmy Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44 -68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44 -68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Argument

The applicant's amendment has been carefully considered with the following effect;

The amendments are in mood of new ground of rejection.

Election/Restriction

The examiner acknowledges the election paper 10/31/05 of claims 44 - 68. Because of the applicant fails to state the reason for traversing this election/restriction, therefore the election considers without traverse.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44 – 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al (US 2004/0081399) in view of Nikonow et al (US 6,859,587).

As to claim 44, Zheng et al disclosed (fig 2) a device, comprising:

a wafer (the substrate which make the grating coupler) having a wafer surface patterned to comprise an integrated component (plurality of optical devices on the

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surface) and an optical grating coupler (200), the optical coupler operable to couple light incident (see the abstract) from a device above the wafer into the integrated component;

However, Zheng et al are silent on

at least one optical alignment structure on the wafer surface and spatially separated from the optical coupler with a predetermined spatial offset, the optical alignment structure operable to direct at least a portion of incident light along a predetermined direction above the wafer surface to optically mark a relative position of the optical coupler.

On the other hand, Nikonow et al teach at least one optical alignment structure (the point that set to align probes 210, 220) on the wafer surface and spatially separated from the optical coupler with a predetermined spatial offset, the optical alignment structure operable to direct at least a portion of incident light along a predetermined direction above the wafer (205) surface to optically mark a relative position of the optical coupler.

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to modify the teaching of Zheng et al and use the alignment structure as taught by Nikonow et al for the purpose of aligning the light incident form source to different devices.

As to claims 45 – 49, Nidonow et al disclose (fig 3) disclosed the optical alignment structure is optically retro-reflective, optical grating is Littrow grating, has shaped as a dot.

As to claims 50, 51, 64, 65, Nidonow et al disclosed (fig 3) the wafer (205) further comprises an lcs on the wafer (column 1 lines 10 – 20).

As to claim 52, Nidonow et al disclosed (fig 3) the device as in claim 51, wherein the optical device comprises a waveguide (20, 22) and at least one optical coupler (at light in) engaged to one end of the waveguide to couple light incident from a device above the wafer into the waveguide.

As to claim 53, Nidonow et al disclosed (fig 3) the optical coupler comprises a grating coupler (not label, fig 1).

As to claim 54, Nidonow et al disclosed (fig 3) the LCS comprises a wave guide (20, 22).

As to claims 55 - 63, Nidonow et al disclosed (fig 3) the lcs is optical detector, optical module, multiplexer (column 1 lines 10 –20).

As to claims 66 - 68, Nidonow et al disclosed (figs 1, 3) the device as in claim 44, wherein the optical alignment structure (230, 232) comprises an optical waveguide (20, 22) comprising input and output ports (light in and light out) that are located adjacent to

the integrated component, and wherein the input port comprises an input optical coupler to couple incident light into the optical waveguide and the output port comprises an output optical coupler to couple light out of the output port to optically mark the relative position of the optical coupler.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen whose telephone number is 571-272-1965. The examiner can normally be reached on M - F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen, can be reached on 571 - 272 -1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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Jimmy Nguyen

05/23/06


VINH NGUYEN
PRIMARY EXAMINER
A.U. 2829
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